

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-6 (Canceled).

Claim 7 (Currently Amended): ~~The three-dimensional display method as claimed in any one of claims 1-6~~ A three-dimensional display method for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the method comprising:

generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer, and displaying the first two-dimensional images on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane; and

generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer, and displaying the second two-dimensional images on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a screen on which the character information is input or edited; and

a background plane of lines after a line including a cursor indicating an inputting or editing position of the character information is displayed at a depth position different from a depth position at which a background plane of the line including the cursor and lines before the line including the cursor is displayed.

Claim 8 (Currently Amended): ~~The three-dimensional display method as claimed in any one of claims 1-6~~ A three-dimensional display method for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the method comprising:

generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer, and displaying the first two-dimensional images on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane; and

generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer, and displaying the second two-dimensional images on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a screen on which the character information is input or edited; and

a background plane of a line including a cursor indicating an inputting or editing position of the character information and lines after the line including the cursor is displayed at a depth position different from a depth position at which a background plane of lines before the line including the cursor is displayed.

Claims 9-11 (Canceled).

Claim 12 (Currently Amended): ~~The three-dimensional display method as claimed in any one of claims 1-6~~ A three-dimensional display method for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the method comprising:

generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer, and displaying the first two-dimensional images on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane; and

generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer, and displaying the second two-dimensional images on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a table or a menu in which character information are arranged and from which a piece of character information can be selected; and

a background plane of a selected character information part is displayed at a depth position different from a depth position at which a background plane of other character information is displayed.

Claims 13-18 (Canceled).

Claim 19 (Currently Amended): ~~The three-dimensional display apparatus as claimed in any one of claims 13-18~~ A three-dimensional display apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the apparatus comprising:

first means for generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer;

second means for displaying the first two-dimensional images generated by the first means on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane so as to display the background plane at an arbitrary position in the three dimensional space;

third means for generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer; and

fourth means for displaying the second two-dimensional images generated by the third means on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a screen on which the character information is input or edited; and

the second means displays a background plane of lines after a line including a cursor indicating an inputting or editing position of the character information at a depth position different from a depth position at which a background plane of the line including the cursor and lines before the line including the cursor is displayed.

Claim 20 (Currently Amended): ~~The three-dimensional display apparatus as claimed in any one of claims 13-16~~ A three-dimensional display apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the apparatus comprising:

first means for generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer;

second means for displaying the first two-dimensional images generated by the first means on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane so as to display the background plane at an arbitrary position in the three dimensional space;

third means for generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer; and

fourth means for displaying the second two-dimensional images generated by the third means on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a screen on which the character information is input or edited; and

the second means displays a background plane of a line including a cursor indicating an inputting or editing position of the character information and lines after the line including the cursor at a depth position different from a depth position at which a background plane of lines before the line including the cursor is displayed.

Claims 21-23 (Canceled).

Claim 24 (Currently Amended): ~~The three-dimensional display apparatus as claimed in any one of claims 13-18~~ A three-dimensional display apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, the apparatus comprising:

first means for generating first two-dimensional images that are obtained by projecting a background plane onto the plurality of display planes along a line of sight of the observer;

second means for displaying the first two-dimensional images generated by the first means on the display planes respectively wherein brightness of each of the first two-dimensional images is determined independently for each display plane according to a depth position of a display object in a three-dimensional space if brightness of the display object is darker than that of the background plane so as to display the background plane at an arbitrary position in the three dimensional space;

third means for generating second two-dimensional images that are obtained by projecting the display object onto the plurality of display planes along the line of sight of the observer; and

fourth means for displaying the second two-dimensional images generated by the third means on the display planes respectively in which brightness of each of the second two-dimensional images is set to be the same among the display planes irrespective of the depth position of the display object if the brightness of the display object is darker than that of the background plane, wherein,

the display object is character information;

the background plane is a background of a table or a menu in which character information are arranged and from which a piece of character information can be selected; and

the second means displays a background plane of a selected character information part at a depth position different from a depth position at which a background plane of other character information is displayed.

Claims 25-36 (Canceled).

Claim 37 (Original): A two-dimensional image generation method executed by a two-dimensional image output apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

a two-dimensional image calculation step of calculating two-dimensional images, each corresponding to a display plane, of a display object and a background from image information of the display object and the background;

a brightness value determination step of determining whether a brightness value of the display object is equal to or less than a predetermined threshold and the brightness value of the display object is less than a brightness value of the background; and

a brightness value calculation step of, when it is determined that the brightness value of the display object is equal to or less than the predetermined threshold and the brightness value of the display object is less than the brightness value of the background, calculating the brightness value of each two-dimensional image of the background according to depth information of the display object and setting brightness values of the two-dimensional images of the display object to be the same.



Claim 38 (Original): A two-dimensional image generation method executed by a two-dimensional image output apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

a two-dimensional image calculation step of calculating two-dimensional images, each corresponding to a display plane, of a display object and a background from image information of the display object and the background;

a brightness value determination step of determining whether a brightness value of the display object is equal to or less than a predetermined threshold; and

a brightness value calculation step of, when the brightness value of the display object is equal to or less than the predetermined threshold, changing the brightness value of the background to a value greater than the brightness value of the display object, and calculating the brightness value of each two-dimensional image of the background based on the changed brightness value according to depth information of the display object and setting brightness values of the two-dimensional images of the display object to be the same.

Claim 39 (Original): A two-dimensional image generation method executed by a two-dimensional image output apparatus for displaying two-dimensional images, by changing transparency, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

a two-dimensional image calculation step of calculating two-dimensional images, each corresponding a display plane, of a display object and a background from image information of the display object and the background;

a brightness value determination step of determining whether a brightness value of the display object is equal to or greater than a predetermined threshold and the brightness value of the display object is greater than a brightness value of the background; and

a transparency value calculation step of, when it is determined that the brightness value of the display object is equal to or greater than the predetermined threshold and the brightness value of the display object is greater than the brightness value of the background, calculating a transparency value of each two-dimensional image of the background according to depth information of the display object and setting transparency values of the two-dimensional images of the display object to be the same.

Claim 40 (Original): A two-dimensional image generation method executed by a two-dimensional image output apparatus for displaying two-dimensional images, by changing transparency, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

a two-dimensional image calculation step of calculating two-dimensional images, each corresponding a display plane, of a display object and a background from image information of the display object and the background;

a brightness value determination step of determining whether a brightness value of the display object is equal to or greater than a predetermined threshold; and

a transparency value calculation step of, when the brightness value of the display object is equal to or greater than the predetermined threshold, changing the brightness value of the background to a value less than the brightness value of the display object, and calculating the transparency value of each two-dimensional image of the background based on the changed brightness value according to depth information of the display object and

setting transparency values of the two-dimensional images of the display object to be the same.

Claim 41 (Previously Presented): A two-dimensional image output apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

two-dimensional image calculation means for calculating two-dimensional images, each corresponding to a display plane, of a display object and a background from image information of the display object and the background;

brightness value determination means for comparing a brightness value of the display object with another brightness value; and

brightness value calculation means for calculating a brightness value of each two-dimensional image of the display object and the background based on the two-dimensional images calculated by the two-dimensional image calculation means and depth information of the display object and the background;

wherein, when it is determined that the brightness value of the display object is equal to or less than a predetermined threshold and the brightness value of the display object is less than the brightness value of the background by the brightness determination means, the brightness value calculation means calculates the brightness value of each two-dimensional image of the background according to depth information of the display object and sets brightness values of the two-dimensional images of the display object to be the same.

Claim 42 (Previously Presented): A two-dimensional image output apparatus for displaying two-dimensional images, by changing brightness, on a plurality of display planes

placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

two-dimensional image calculation means for calculating two-dimensional images, each corresponding to a display plane, of a display object and a background from image information of the display object and the background;

brightness value determination means for comparing a brightness value of the display object with another brightness value; and

brightness value calculation means for calculating a brightness value of each two-dimensional image of the display object and the background based on the two-dimensional images calculated by the two-dimensional image calculation means and depth information of the display object and the background;

wherein, when it is determined that the brightness value of the display object is equal to or less than a predetermined threshold by the brightness determination means, the brightness value calculation means changes the brightness value of the background to a value greater than the brightness value of the display object, and calculates the brightness value of each two-dimensional image of the background based on the changed brightness value according to depth information of the display object and sets brightness values of the two-dimensional images of the display object to be the same.

Claim 43 (Previously Presented): A two-dimensional image output apparatus for displaying two-dimensional images, by changing transparency, on a plurality of transmissive display apparatuses placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

two-dimensional image calculation means for calculating two-dimensional images, each corresponding to a transmissive display apparatus, of a display object and a background from image information of the display object and the background;

brightness value determination means for comparing a brightness value of the display object with another brightness value; and

transparency value calculation means for calculating a brightness value of each two-dimensional image of the display object and the background based on the two-dimensional images calculated by the two-dimensional image calculation means and depth information of the display object and the background;

wherein, when it is determined that the brightness value of the display object is equal to or greater than a predetermined threshold and the brightness value of the display object is greater than the brightness value of the background by the brightness determination means, the transparency value calculation means calculates a transparency value of each two-dimensional image of the background according to depth information of the display object and sets transparency values of the two-dimensional images of the display object to be the same.

Claim 44 (Previously Presented): A two-dimensional image output apparatus for displaying two-dimensional images, by changing transparency, on a plurality of transmissive display apparatuses placed at different depth positions as seen from an observer to display a three-dimensional stereoscopic image, comprising:

two-dimensional image calculation means for calculating two-dimensional images, each corresponding to a transmissive display apparatus, of a display object and a background from image information of the display object and the background;

brightness value determination means for comparing a brightness value of the display object with another brightness value; and

transparency value calculation means for calculating a brightness value of each two-dimensional image of the display object and the background based on the two-dimensional images calculated by the two-dimensional image calculation means and depth information of the display object and the background;

wherein, when it is determined that the brightness value of the display object is equal to or greater than a predetermined threshold by the brightness determination means, the transparency value calculation means changes the brightness value of the background to a value less than the brightness value of the display object, and calculates the transparency value of each two-dimensional image of the background based on the changed brightness value according to depth information of the display object and sets transparency values of the two-dimensional images of the display object to be the same.

Claims 45-48 (Canceled).